

GUIDELINES FOR DEVELOPMENT WITHIN THE WILDLAND-URBAN INTERFACE

INTRODUCTION:

A. PREFACE:

Senate Bill 51 (codified in relevant part at Montana Code Annotated section 76-13-104(8)) requires that the Montana Department of Natural Resources and Conservation ("DNRC") adopt administrative rules by October 1, 2008, that address development within the wildland-urban interface ("WUI"), including, but not limited to, best practices for development within the WUI, and criteria for providing grant and loan assistance to local government entities to encourage adoption of best practices for development within the WUI. These guidelines, which will be adopted by reference pursuant to the Montana Administrative Procedure Act, will partially fulfill DNRC's rulemaking mandate.

1. WILDLAND-URBAN INTERFACE:

Since the mid-1960s people have subdivided and developed wildlands for residential, recreational, and commercial uses. This development has created many communities mixed with wildland vegetation. Fire protection specialists call these areas the WUI.

A WUI fire situation exists anywhere that structures are located close to natural vegetation. A fire can spread from the vegetation to structures or vice-versa. A WUI can vary from a large housing development adjacent to natural vegetation to a structure(s) surrounded by natural vegetation. There are two general categories of WUI:

- a. *Boundary WUI* - an area where a clearly defined, linear boundary of homes meets wildland vegetation. Typically, we find this sort of interface on the fringe of large towns.
- b. *Intermix WUI* - an area where structures are scattered among or mixed with wildland vegetation, without a clearly defined boundary. Typically, we find the intermix WUI in rural areas where people have subdivided wildlands into small parcels of one to forty acres.

2. WILDFIRE PROTECTION

In Montana, summer typically brings the fire season; the result of low rainfall, high temperatures, low humidity, and summer thunderstorms. Nevertheless, major wildfires may occur at any time of the year. Varied topography, a semi-arid climate, and numerous human-related sources of ignition make this possible. But Montanans can readily protect lives,

property, natural resources, scenic beauty, and greatly facilitate the work of fire suppression organizations by following these guidelines.

It is recommended that these guidelines be adopted by local government entities, fire protection agencies, planners, developers, and homeowners. But because Montana is so large and diverse in terrain, vegetation, and weather, it is important that the guidelines be applied with flexibility and in consultation with local fire experts. In some cases, certain trade-offs are possible. For example, residential sprinklers may be used to compensate for a reduction in driveway width; a wide road with numerous turnouts may suffice, rather than separate roads for access and egress which may be impossible or very expensive to construct. Although the ultimate goal is the protection of life, property, and resources, there are several alternatives to achieving that end.

B. COMMON WILDLAND-URBAN INTERFACE PROBLEMS:

Fire protection agencies, local government entities, developers, planners, and landowners must work together to improve fire protection in the WUI. Some common problems are:

1. Responsibilities and jurisdictions of different fire-protection agencies are sometimes unclear.
2. The responsibilities of the developer, planner, and landowner are not well defined. Few people who live, plan, and develop in the WUI recognize the wildfire hazards. Consequently, they seldom invest in appropriate fire prevention measures.
3. Frequently no fire-protection agency takes the responsibility for adopting or enforcing local and state fire regulations.
4. Firefighters often find inadequate roads, insufficient water, and a buildup of natural fuels.
5. Some WUI areas have no organized fire-protection agency.

Wildfire disasters in WUI areas are common in many parts of the nation, and the problem is increasing. This can be corrected only through comprehensive planning that includes housing development design, fuels management, and public education. A fire-protection agency by itself will not suffice.

These guidelines describe how to reduce risk by reducing and managing the buildup of fuels, building and maintaining adequate road systems, and providing adequate water to firefighters. These steps along with the use of fire-resistant

materials and designs for homes and outbuildings can work in conjunction to protect lives, property and natural resources across the state of Montana.

C. DEVELOPMENT OF THESE GUIDELINES

The development of these guidelines began in the winter of 2007/2008 by many groups, organizations, government agencies, and individuals as concerns grew about protection of lives, property and natural resources from unwanted wildfire across Montana.

Between the severity of the annual fire seasons and the continued development of the WUI, fire-suppression costs escalated, giving even more reason to encourage homeowners, developers and others to take on some of the responsibility of protecting homes and developments from wildfire.

The 2007 Montana State Legislature saw the need for these guidelines, and in passing Senate Bill 51, mandated DNRC to work toward their development and their adoption as administrative rules. Senate Bill 51 included the following laws:

76-13-115. State fire policy. The legislature finds and declares that:

- (1) the safety of the public and of firefighters is paramount in all wildfire suppression activities;
- (2) it is a priority to minimize property and resource loss resulting from wildfire and to minimize expense to Montana taxpayers, which is generally accomplished through an aggressive and rapid initial attack effort;
- (3) interagency cooperation and coordination among local, state, and federal agencies are intended and encouraged, including cooperation when restricting activity or closing areas to access becomes necessary;
- (4) fire prevention, hazard reduction, and loss mitigation are fundamental components of this policy;
- (5) all property in Montana has wildfire protection from a recognized fire protection entity;
- (6) all private property owners and federal and state public land management agencies have a responsibility to manage resources, mitigate fire hazards, and otherwise prevent fires on their property;
- (7) sound forest management activities to reduce fire risk, such as thinning, prescribed burning, and insect and disease treatments, improve the overall diversity and vigor of forested landscapes and improve the condition of related water, wildlife, recreation, and aesthetic resources; and
- (8) development of fire protection guidelines for the wildland-urban interface is critical to improving public safety and for reducing risk and loss.

76-13-104. Functions of department -- rulemaking.

- (1) The department has the duty to ensure the protection of land under state and private ownership and to suppress wildfires on land under state and private

ownership. No fees may be collected for this purpose except fees provided for in 76-13-201.

(2) (a) The department shall adopt rules to protect the natural resources of the state, especially the natural resources owned by the state, from destruction by fire and for that purpose, in declared emergencies, may employ personnel and incur other expenses when necessary.

(b) The department may adopt and enforce reasonable rules for the purpose of enforcing and accomplishing the provisions and purposes of part 2 and this part.

(3) The duty imposed on the department under this section is not exclusive to the department and does not absolve private property owners or local governmental fire agencies organized under Title 7, chapter 33, from any fire protection or suppression responsibilities.

(4) The department may give technical and practical advice concerning forest, range, water, and soil conservation and the establishment and maintenance of woodlots, windbreaks, shelterbelts, and fire protection.

(5) The department shall cooperate with all public and other agencies in the development, protection, and conservation of the forest, range, and water resources in this state.

(6) The department shall establish and maintain wildland fire control training programs.

(7) The department shall appoint firewardens in the number and localities that it considers necessary, subject to confirmation by the local county government, and shall adopt rules prescribing the qualifications and duties of firewardens that are in addition to those provided in 76-13-116.

(8) By October 1, 2008, the department shall adopt rules addressing development within the wildland-urban interface, including but not limited to:

(a) best practices for development within the wildland-urban interface; and

(b) criteria for providing grant and loan assistance to local government entities to encourage adoption of best practices for development within the wildland-urban interface.

With that mandate, the following groups, organizations and government agencies collaboratively assisted DNRC in the fulfillment of its mandate to develop these guidelines:

Montana League of Cities and Towns

Montana Farm Bureau

Montana Association of Counties

United Department of Agriculture State Forest Service

United States Department of Interior Bureau of Land Management

Montana Department of Labor and Industry

Montana Wood Products Association

Montana Association of Realtors

Independent Insurance Agents of Montana

Montana Department of Commerce

Montana Fire Chiefs Association
Montana State Fire Marshal
Montana Disaster and Emergency Services
Montana Health and Human Services
FireSafe Montana
Lewis and Clark County
North Western Energy
Montana Smart Growth Coalition
Montana Bankers Association
Flathead Electric
Fire Logistics Incorporated

D. PURPOSE

This document is just one of a number of documents that, when combined together, provide legal and practical guidance in protecting lives, homes, and other property from wildfire in the WUI.

Construction standards adopted by the Montana Department of Labor and Industry employ state-of-the-art construction techniques that help prevent home ignitions.

Some issues, such as road construction standards, can be found in the applicable county zoning documents, or in the state Model Subdivision Regulations.

The Homeowner's Code of Responsibilities addresses the actions that homeowners and residents in the WUI can take to protect their property, and lives in the case of wildland fire.

Developments in science and technology, along with the adoption of new rules by the state of Montana and its counties governing construction and fuels mitigation in the WUI, will present new ideas and direction for homeowners and other residents of the WUI.

1. DEFENSIBLE SPACE/SURVIVABLE SPACE

When it comes to wildland fire, there are no absolutes. Homes may survive or be lost due to any number of factors, some of which may be readily apparent, while some may not.

In these guidelines, there are two phrases that may appear to be interchangeable: defensible space and survivable space. By definition, they appear quite similar:

a. **Defensible Space:** an area, either natural or manmade, where material capable of allowing a fire to spread unchecked has been treated, removed or modified to slow the rate and intensity of an advancing wildfire and to provide a safe working area for wildfire suppression operations to occur while protecting life and/or improved property.

b. **Survivable Space:** the characteristics of a structure to survive a wildland fire on its own. The survivability of a structure in the WUI greatly increases by incorporating fuel management techniques, minimizing firebrand receptive beds, such as debris, pine needles, firewood stacks, etc., and performing regular maintenance. Nothing provides a guarantee that a structure will survive a wildland fire. The use of the term "survivable space" is a reference to the combination of topographical location of the building site, design, and fuel/vegetation management to limit the ignition zone around a structure. Appropriate and applicable survivable space provisions provide the best chance for a structure to resist loss and/or major damage during a wildland fire, on its own, without direct suppression intervention by firefighters.

But there is no definite prescription for what is defensible or survivable space, as conditions and fire behavior changes what is needed to protect a home or other improvements will change. What may be adequate one day will fall far short another, and vice versa. It is up to the homeowner to employ all the advantages he or she can to protect homes, investments and family members.

E. DEFINITIONS

1. Access (Legal and Physical):

- a. **Legal Access:** A property fronts a public (city, county, state, or federal)
 - i. street, road, or easement that has been dedicated for public use, or a private street, road, or easement that has been dedicated for either public or private use.
- b. **Physical Access:** A property fronts a street, road, or driveway that has been constructed in conformance with road standards adopted by the Authority Having Jurisdiction ("AHJ").
- c. **Access:** From a practical standpoint, access shall be defined as a road or roads that provide all-weather, all-season access.

2. Accessory Building or Structure: Any building or structure used incidentally to another building or structure. It may be unenclosed, without a complete exterior wall system enclosing the area under roof or floor above.

3. Alternative: A system, condition, arrangement, material, or equipment submitted to the Fire Protection Authority ("FPA") or AHJ as a substitute for requirements for applicable code requirements.
4. Approved: Acceptable to the FPA or other entity having jurisdictional authority.
5. Aspect: Compass direction toward which a slope faces.
6. Authority Having Jurisdiction (AHJ): Jurisdictions, approving agencies, code officials, private entities, and/or property owners may assume the role of an AHJ, given a statutory authority or legal responsibility.
7. Building: Any structure used or intended for supporting any use or occupancy.
8. Building Envelope: The designated area of a lot within which a structure or structures can be built and which is depicted or described on a site plan or final subdivision plat.
9. Canyon: A deep valley with steep slopes carved from the landscape by a river or a stream.
10. Code Official: The official or authorized representative designated by the FPA or AHJ to interpret and enforce applicable codes.
11. Combustible: Any material that, in the form in which it is used, and under conditions anticipated will ignite and burn (see noncombustible).
12. Community Wildfire Protection Plan ("CWPP"): CWPPs are authorized and defined in Title I of the Healthy Forests Restoration Act ("HFRA") passed by Congress on November 21, 2003, and signed into law by President George W. Bush on December 3, 2003.
 - a. The HFRA places renewed emphasis on community planning by extending a variety of benefits to communities with a CWPP in place. Critical among these benefits is the option of establishing a localized definition and boundary for the WUI and the opportunity to help shape fuels treatment priorities for surrounding federal and non-federal lands.
 - b. The CWPP, as described in the HFRA, brings together diverse local interests to discuss their mutual concerns for public safety, community sustainability, and natural resources. It offers a positive, solution-oriented environment in which to address challenges such as local firefighting capabilities, the need for

defensible space around homes and subdivisions, and where and how to prioritize land management – on both federal and non-federal land.

13. Critical Fire Weather: A set of weather conditions (usually a combination of high temperatures, low relative humidity, and strong winds) whose effects on fire behavior make control difficult and threaten firefighter safety.
14. Cul-de-sac: A short street or road with a bulb or hammer head shaped turn around at its end.
15. Defensible Space: An area, either natural or manmade, where material capable of allowing a fire to spread unchecked has been treated, removed, or modified to slow the rate and intensity of an advancing wildfire and to provide a safe working area for wildfire suppression operations to occur while protecting life and/or improved property.
16. Driveway: A vehicular ingress and egress route that serves no more than two buildings or structures or more than five dwelling units, not including accessory structures.
17. Dwelling: Any structure or portion thereof providing complete, independent, and permanent living facilities for one household.
18. Easement: The right of a property owner to use all or a portion of another's property for a specified purpose, created by law, agreement, deed, or other recorded document.
19. Evacuation: The temporary movement of people and their possessions from locations threatened by a hazard.
20. Fire Chimney: Topographical features, usually canyons, gulches or valleys, which tend to funnel or otherwise concentrate fire toward the top of steep slopes.
21. Fire Flow: The flow rate of a water supply, measured at 20 psi (137.9 kPa) residual pressure, that is available for firefighting.
22. Fire Hazard: A fuel complex, defined by kind, arrangement, volume, condition, and location, that determines the ease of ignition and/or resistance to fire control.
23. Fire Hydrant: A valved connection on a piped year-round pressurized water supply system having one or more outlets that is used to supply hose and fire department pumpers with water.

- a. Dry (Draft) Hydrant: An arrangement of pipe permanently connected to a year-round water source other than a piped, pressurized water supply system, that provides a ready means of water supply for firefighting purposes and that utilizes the drafting (suction) capability of fire department pumpers.
 - b. Pressurized Hydrant: An arrangement of pipe permanently connected to a year-round water source with a pressurized water supply system that provides a ready means of water supply for firefighting purposes.
24. Fire Protection Authority ("FPA"): The organization, office, or individual responsible for approving equipment, an installation, or procedure and having jurisdiction (as established by action described in, and in accordance with, the Montana Code Annotated).
25. Fire Protection Feature: A fire protection feature is any feature outlined in the fire prevention plan or fire protection plan, or any other features that aid in the prevention or protection from fire.
26. Fire Protection Plan: A document prepared for a specific project or development proposed for the wildland-urban interface area. It describes ways to minimize and mitigate the fire problems created by the project or development, with the purpose of reducing impact to, and enhancing, the community's fire protection delivery system.
27. Fire Resistance Rated Construction: The use of materials and systems in the design and construction of a building or structure to safeguard against the spread of fire within a building or structure and the spread of fire to or from buildings or structures to the WUI area.
28. Fire Weather: Weather conditions favorable to the ignition and rapid spread of fire. In wildfires, this generally includes high temperatures combined with strong winds and low humidity (see "critical fire weather").
29. Fuels: All combustible materials within the WUI including, but not limited to, vegetation and structures.
30. Fuel Break: An area, strategically located for fighting anticipated fires, where the native vegetation has been permanently modified or replaced so that fires burning into it can be more easily controlled. Fuel breaks divide fire-prone areas into smaller areas for easier fire control and provide access for fire fighting.

31. Fuel Loading: The volume of fuel in a given area. Generally expressed in tons or pounds per acre, fuel loading may be referenced to fuel size or timelag categories, and may include surface fuels or total fuels.
32. Fuel Mosaic: A fuel modification system that provides for the creation of islands and irregular boundaries to reduce the visual and ecological impact of fuel modification.
33. Governing Body: A board of county commissioners or the governing authority of a city or town as organized pursuant to law (Montana Code Annotated section 76-3-103(7)).
34. Greenbelt: An area with fire-resistive vegetation (planted or native), maintained to cause a reduction in fire intensity, and used for purposes other than fire protection (golf course, cemetery, park, playground, mowed park, orchard, etc.).
35. Ground Fuels: All combustible materials such as grass, duff, loose surface litter, tree or shrub roots, rotting wood, leaves, peat, or sawdust that typically support combustion.
36. Gulch: A V-shaped valley formed by erosion. It may contain a small perennial or ephemeral stream.
37. Hammer Head Turnaround: A cul-de-sac that terminates with a T-shaped turnaround similar to the head of a hammer.
38. Hazard: A fuel complex defined by kind, arrangement, volume, condition, and location that determines the ease of ignition and/or of resistance to fire control.
39. Ignition Resistant Material and Construction Classes: Any product designed for exterior exposure that, when tested in accordance with applicable standards, meets those standards. There are three construction classes of additional requirements for construction in WUI areas based on the fire hazard present.
40. Improved Property: A piece of land or real estate upon which a structure has been placed, a marketable crop is growing (including timber), or other property improvement has been made.
41. Jurisdiction: Any governmental unit or political division or subdivision over which the governmental unit exercises power and authority.
42. Ladder Fuels: Fuels that provide vertical continuity allowing fire to carry from surface fuels into the crowns of trees or shrubs with relative ease.

43. Land Development: Land use development or construction projects that involve substantial property improvement and usually a change in the land-use character within a subject property or properties. Such development generally involves using land for residential or commercial purposes.
44. Land or Property Owner: Any and all individuals, organizations, corporations, or other parties with a titled interest in the subject property. For all other purposes of these regulations, the terms "property owner", "landowner", and "owner" mean both the seller and the purchaser under a contract for deed.
45. Land Use: The type or degree of activity occurring or intended to occur on a piece of land.
46. Life Safety: Actions taken to prevent the endangerment of people threatened by emergency incidents or by activities associated with the management.
47. Local Government: This includes city councils, county commissions, and other elected and appointed officials who work for local government.
48. Mitigation: Action that moderates the severity of a fire hazard or risk.
49. Noncombustible: A material that, in the form in which it is used and under the conditions anticipated, will not aid combustion or add appreciable heat to an ambient fire.
50. Obstructions: ???
51. Occupancy: The purpose for which a building or portion thereof is used or intended to be used.
52. Open Space: Land or water areas provided or preserved in an essentially undeveloped state for active or passive park or recreation purposes, land conservation or other natural resource protection, historic or scenic purposes, or assisting in the shaping of the character, direction, and timing of community development.
53. Planned Unit Development ("PUD"): A land development project that encourages and allows more creative and imaginative design of land developments than is possible under district zoning regulations. PUDs are intended to allow substantial flexibility in planning and designing a proposal. This flexibility often accrues in the form of relief from compliance with conventional zoning ordinance site and design requirements. Such

developments generally consist of a planned mixture of land uses built in a prearranged relationship to each other and having open space and community facilities in common ownership or use (Montana Code Annotated section 76-3-103(10)).

- 54. Primary Access Road: A main entry and exit road. Usually the road(s) that leads into the development from a highway, county road, or major arterial. Must provide for unobstructed traffic circulation during an emergency.
- 55. Private Road or Street: A street or road for which the right-of-way or easement has not been dedicated as a public road or street.
- 56. Public Road or Street: A street or road for which the right-of-way or easement has been dedicated to or acquired by a governing body for public use.
- 57. Public Street: A thoroughfare that has been dedicated for vehicular use by the public.
- 58. Rated Roof: A roof constructed with a "roof covering assembly" that is listed as meeting the requirements for Class A, B, or C "roof covering assembly materials"
- 59. Risk: The measure of the probability and severity of adverse effects that result from an exposure to a wildland fire (direct flames, radiant heat, or firebrands).
- 60. Secondary Road: A road that leaves a primary access road to reach homes, buildings, recreational sites, etc. that lie away from the primary road. Driveways longer than 600 feet are considered as secondary roads.
- 61. Street or Road: Any access, not including a driveway, providing access to more than one parcel and primarily intended for vehicular access.
- 62. Slash: The accumulation of any burnable, organic material that has been severed or removed from its natural state.
- 63. Slope: Upward or downward incline or slant, usually calculated as a percent of slope (rise or fall per 100 feet [30.45m] of horizontal distance).
- 64. Street or Road Identification Signs: Any sign containing words, numbers, directions, or symbols that provide information to emergency responders.

65. Structure: That which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner.
66. Structure Protection: Protecting a structure from the threat of damage from an advancing wildland fire. This involves the use of standard wildland protection tactics, control methods, and equipment, including fire control lines and the extinguishment of spot fires near or on the structure. The protection can be provided by both the rural and/or local government fire department and the wildland fire protection agency.
67. Subdivision: A division of land or land so divided that it creates one or more parcels containing less than 160 acres that cannot be described as a one-quarter aliquot part of a United States government section, exclusive of public roadways, in order that the title to or possession of the parcels may be sold, rented, leased, or otherwise conveyed and includes any resubdivision and further includes a condominium or area, regardless of its size, that provides or will provide multiple space for recreational camping vehicles or mobile homes. (Montana Code Annotated section 76-3-103(15)).
68. Survivable Space: Survivable space is defined as the characteristics of a structure to survive a wildland fire on its own. The survivability of a structure in the WUI greatly increases by incorporating fuel management techniques, minimizing firebrand receptive beds, such as debris, pine needles, firewood stacks, etc., and performing regular maintenance. Nothing provides a guarantee that a structure will survive a wildland fire. The use of the term "survivable space" is a reference to the combination of topographical location of the building site, design, and fuel/vegetation management to limit the ignition zone around a structure. Appropriate and applicable survivable space provisions provide the best chance for a structure to resist loss and/or major damage during a wildland fire, on its own, without direct suppression intervention by firefighters.
69. Traffic Lane: That portion of a roadway that provides a single lane of vehicle travel in one direction.
70. Tree Crown: The primary and secondary branches growing out from the main stem, together with twigs and foliage.
71. Turnaround: A portion of a street or road, unobstructed by parking, that allows for a safe reversal of direction for emergency equipment.
72. Turnout-Pullout: An area along the edge of a street or road that provides a space for a vehicle to safely move out of a traffic lane in order to permit the passage of emergency or other types of vehicles.

73. Valley: An elongated depression of the earth's surface, usually found between ranges of hills or mountains.
74. Vegetation: Any plant, native or planted, living or dead; tree; shrub; bush; grass; flower; etc.
75. Vegetation Management Plan: A vegetation management plan reduces the amount of fuel available for wildland fires, reducing the probability of a rapidly spreading wildland fire. Elements of the plan include removal of slash, snags, other ground fuels, ladder fuels and dead trees, and thinning of live vegetation.
76. Water Supply: A source of water for fire fighting activities: any tank(s) and/or pond(s) to be used for fire protection purposes.
77. Wildland: An area in which development is essentially nonexistent, except for roads, railroads, power lines, and similar facilities.
78. Wildland Fire or Wildfire: An unplanned and uncontrolled fire spreading through vegetative fuels, at times involving structures.
79. Wildland Fire Protection: Any non-structure fire protection that occurs in the wildland with the primary responsibility of protecting natural resources and watersheds from damage. State and federal forestry or land management and some local government agencies normally provide wildland fire protection.
80. Wildland-Urban Interface (or Structure-Wildland Interface): The presence of structures in locations in which the FPA or AHJ determines that topographical features, vegetation fuel types, local weather conditions, and prevailing winds, in conjunction with structural ignitability, may result in the potential for ignition of the structures within the area from flames and firebrands of a wildland fire.

SECTION I: HOMEOWNER'S CODE OF RESPONSIBILITY

Responsibilities of Property Owners in the Wildland-Urban Interface

A. INTRODUCTION:

Property owners, residents, and people have a responsibility for their own life safety. Understanding the risks of living or being in the Wildland-Urban Interface is part of that responsibility. Knowing the risks of staying during a wildfire, such as whether you are physically and emotionally prepared to stay, whether enough advance preparation was done to defend your property safely, and whether other family members will be able to cope with their situation given the conditions is ?.

B. EVACUATION: Evacuation should be done early if there is a question of property preparation, safety, or physical or mental preparedness.

1. One of the highest risks during a wildfire is on the evacuation routes and roads.
2. Have a plan for the evacuation routes to be used, where you or your family will evacuate to, and how you will maintain accountability if anyone in the group is split up for any reason, including, someone deciding to stay.

C. PROTECTION OF PROPERTY: Property owners have a responsibility for the protection of their assets, structures, and property. In order for those assets, structures, and property to have the best opportunity to survive a wildfire there are some basic principles that have to be followed.

1. Assets, structures, and property have to be properly prepared and maintained **before** a wildfire threatens them. Utilize the guidelines and best practices in this document to assist in preparation.
2. Do not assume firefighters will be readily available to defend your property. Prepare your assets, structures, and property to survive a major wildfire without firefighter intervention. This will give your property the best chance of survival and likely make it easier to defend, in the event you decide to stay or fire resources are available.
3. You have to have good access, fire resistant construction and landscaping, an adequate water supply and a safe area to operate to be effective or receive assistance.

D. FIRE PLAN: Have a fire plan for a wildfire.

1. Develop a plan to address your own options for dealing with a wildfire threatening your assets, structures, and property.

2. Know where fire is likely to be a threat to your property and how to access it safely.
3. Understand the risks to evacuating mid-slope roads and roads where heavy fuel loads are present.
4. Understand weather patterns and the likely effects it will have on whether you can evacuate or stay at your property.
5. Know where your safe zones are.

E. CONCLUSION:

The decision whether to stay or go is yours. You have a legal right to remain and defend your property. Every situation is different and has to be evaluated at the time of the threat. What is right for you might not be right for someone else under the same circumstances. You must be confident you are making the best possible decision for the safety of yourself, your family, and others involved with you. The survival of your property really depends on the preparation and maintenance done prior to the threat. The survival of yourself and others depends on early preparedness and clear decision making at the time of the threat. The highest risk to your safety is when you are away from your structures and on streets or roads. This is unless there has been an early evacuation, and even then it may not be enough if a fire cuts off your evacuation route.

SECTION II: BEST PRACTICES FOR SUBDIVISION REGULATIONS:

A. INTRODUCTION:

These subdivision regulation guidelines provide a list of standards that can be administered through the use of local subdivision regulations. These standards would apply only to the development of lots in new subdivisions. These subdivision regulation guidelines do not include structural elements (required roofing materials, siding materials, etc.).

B. PURPOSE:

1. The purpose of these subdivision regulation guidelines is to protect the public health, safety and welfare by establishing standards for new subdivisions to:

- a. To reduce threats to life safety, property, and resources by improving access to and defensibility of developments, homes, and other property in wildland-urban interface areas;
- b. Minimize the potential of spreading fire from wildland areas to structures and from structure fires to wildland areas and permit efficient suppression of fires;
- c. Require cul-de-sacs, hammer head turnarounds, and turnouts on streets and roads providing legal and physical access to new subdivisions with the intent to provide better emergency access to remote areas;
- d. Require that new subdivisions and planned unit developments developed in the WUI provide water supply systems with suitable access for firefighting crews and apparatus, with the intent to increase the resources available to such crews and minimize the spread of a wildland or structure fire.

C. APPLICABILITY:

1. These subdivision regulation guidelines apply to:
 - a. New subdivisions located within boundaries of the WUI as delineated on the WUI district map, the limits of which are adopted by the [Name of the governing body] on [Appropriate Date], and which are on file at the [Name of County] Clerk & Recorder's Office.
 - b. Streets or roads used for legal and physical access to new subdivisions, and

D. STANDARDS:

1. FUEL MITIGATION

- a. Asset Protection Zone (Defensible Space)

- i. Each lot within a new subdivision should have a building envelope established on the final plat for the subdivision. The structures located on each lot must be located within the building envelope as determined by the governing body.
- ii. Each building envelope should have a minimum asset protection zone established prior to filing of the final plat for the subdivision and the asset protection zone should be based on the attached guideline chart (see asset protection zone guidelines).

**Asset Protection Zone
(Defensible Space) Distances***

Percent Slope	Distance from Assets		
	Uphill**	Sides**	Downhill**
Level to 20%	100 feet	100 feet	100 feet
21% to 40%	150 feet	150 feet	200 feet
41% to 60%	200 feet	200 feet	400 feet

*Adapted from "Wildland Home Fire Risk Meter," Simmerman and Fischer (1990)

** Refers to direction of slope from the structure.

b. Vegetation Management Plan

- i. The subdivider should provide a vegetation management plan for all properties within the subdivision, including the open space.
- ii. The plan should be approved by the FPAHJ and should be implemented prior to the filing of the final plat for the subdivision. The intent of the plan is to reduce fuel loading and provide continuous maintenance of the fuel load.
- iii. The plan should address managing vegetation to meet the following goals:
 - A. To protect life and property.
 - B. To reduce the potential for a fire on improved property from spreading into wildland fuels and from a fire in wildland fuels from spreading into improved property or structures. This also applies to reducing the potential for a fire spreading to or from lands adjacent to the subdivision.
 - C. To provide safe working areas for emergency responders fighting fire.
 - D. To maintain important native plant communities, the ecological processes that influence them, and consistency with

fish and wildlife habitat conservation goals. Consulting with Montana Fish, Wildlife and Parks biologists in the preparation and implementation of the vegetation management plan is strongly encouraged.

iv. Prior to the filing of the final plat for the subdivision, all areas adjacent to streets and roads within new subdivisions should be cleared of vegetation. Single specimens of trees, ornamental vegetation, cultivated ground cover (such as green grass, ivy, succulents, or similar plants), or native grasses and weeds trimmed to a maximum height of four inches, should be allowed provided any such plants do not form a means of readily transmitting fire.

A. All areas within five feet of each side of a public street or road shall be cleared.

B. For private streets or roads, the entire width of the private road easement shall be cleared.

2. SITE DEVELOPMENT

a. Steep Slopes: All structures in new subdivisions should not be sited in areas where the slope exceeds 30 percent as measured before disturbance or alteration. Any proposed lot within a new subdivision that has slopes that exceed 30 percent should be required to have a building envelope established on the final plat for the subdivision that provides for a building site on slopes less than 30 percent. The structures located on each lot should be located within the building envelope as determined by the governing body.

b. Buildings and building sites are discouraged within ravines or other topographical features which constitute "fire chimneys," and within 150 feet of the apex of "fire chimneys". Fire chimneys are topographical features, usually a natural drainage way, which tend to concentrate fire toward the top of steep slopes. Fire chimneys are generally less than one-half mile in length, have slopes of 20 percent or steeper, are less than 600 feet wide, and are at least 120 feet deep as measured from the bottom of the ravine to the crest of either adjacent ridge or slope.

c. Improvements Prior to Construction: Water sources, wells, draft sites, hydrants, fire breaks, access routes, and other fire protection equipment, or features required by the preliminary plat approval should be installed prior to construction of any residential or commercial structures in a new subdivision.

3. FUELBREAKS AND GREENBELTS

WUI fire protection may rely on fuelbreaks and greenbelts to separate communities, groups of structures, or individual homes. These breaks can slow or stop the spread of an oncoming fire. Locate fuelbreaks and greenbelts to protect both existing and planned developments and adjacent wildlands.

Good landscaping design can incorporate vegetation or fire fuelbreaks in planned developments. These fuelbreaks should not be a bare soil trail bulldozed around a subdivision, but can be as simple as the removal of dead and fallen trees, tree limbs, shrubs and other flammable vegetation together with breaking the continuity of vegetation in a band 100 to 300 feet around the development.

One of the most effective means of providing fire protection is the use of open spaces and public use areas such as parks, recreation sites, picnic areas, and perimeter roads to break fuel continuity.

Natural features such as rocky formations with little or no vegetation, rivers or streambeds in which vegetation has been thinned, and dead and dying materials removed can also be utilized in an overall subdivision landscaping plan to help retard an advancing wildfire.

4. ACCESS

Streets and roads providing legal and physical access to lots in new subdivisions and other improvements that help ensure access should meet the following requirements:

a. Streets and Roads

i. Legal and physical access to the lots in all major subdivisions should be provided by a minimum of two approach routes (**Two approach routes should be defined.**), located as remotely from each other as possible to assure more than one escape route for residents and access routes by emergency vehicles.

ii. Potential mitigation measures to include in an alternative development proposal to mitigate one way in and one way out include:

- A. Larger asset protection zones
- B. Fuel breaks along the roadways
- C. Turnouts and pull outs
- D. Cul-de-sacs and hammer head turnaround
- E. Increased flows of fire protection water supply

F. Fire sprinklers

iii. All subdivision should be designed to ensure that fire apparatus have access to within 150 feet of all portions of the buildings constructed on the lots in this proposed development.

iv. The subdivider should provide emergency access to all open space within the subdivision.

b. Gates.

i. The clear opening provided through gates should be two feet (0.61 m) wider than the traveled way.

ii. All gates should be located a minimum of 30 feet (9.2 m) from the public right-of-way and shall not open outward.

iii. Fire department personnel should have ready access to locking mechanisms on any gate restricting access

c. Signage

i. All roads within a new subdivision should be identified with approved non-combustible road signs that meet the applicable local standard

ii. All residential or commercial structures within a new subdivision should be clearly identified with address numbers that are plainly visible and legible from the street prior to occupancy.

d. New Subdivisions and Planned Unit Developments

i. Subdivisions and planned unit developments should be served by an interconnected system of roadways and/or fire accesses such that emergency vehicles can travel to the lots from two directions. **(This should be clarified. Does it mean two different directions or just two different entrances???)**

ii. All subdivisions should provide fire flow as adopted by (Jefferson County). **(What is the standard???)**

5. ALTERNATIVE DEVELOPMENT PROPOSAL

The planning director or the governing body may approve, or recommend approval of, an alternative development proposal when the overall design, as proposed by the applicant, meets or exceeds the intent of this article and is not be detrimental to public health, safety, and welfare.

What is meant by an alternative development proposal? Is this something that is intended to be akin to a planned unit

development? See the definition of planned unit development in the definitions section. If it is not intended to be akin to a PUD, then the term alternative development proposal should be defined.

The purpose of Planned Unit Development regulations is to encourage and allow more creative and imaginative design of land developments than is possible under district zoning regulations. Planned Unit Developments are intended to allow substantial flexibility in planning and designing a proposal. This flexibility often accrues in the form of relief from compliance with conventional zoning ordinance site and design requirements. Ideally, this flexibility results in a development that is better planned, that contains more amenities, and ultimately a development that is more desirable to live in than one produced in accordance with typical zoning ordinance and subdivision controls. An intrinsic, and often neglected, premise upon which the approval of a Planned Unit Development (PUD) must be conditioned, is that while greater density or more lenient siting requirements may be granted, the Planned Unit Development should contain features not normally required of traditional developments.

6. MISCELLANEOUS

a. Mapping of Fire Protection Features

- i. The subdivider should provide to the "fire protection authority having jurisdiction" a detailed site map, including all fire protection features, i.e., access roads, hydrant systems, water supply points, etc. installed in the development.

b. Maintenance of Equipment and Features

- i. All fire protection equipment and features should be properly maintained to provide at least the same level of performance and protection as designed.

- ii. Maintenance should be ensured through the use of

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PLEASE NOTE: The maintenance of infrastructure within rural subdivisions is an ongoing issue throughout the state. The use of homeowner's associations (HOA) for the maintenance of fire protection equipment and water supplies is an option, but requires a functional and well organized HOA, which is generally not the case.

A better option for the maintenance of fire protection equipment and water supplies could include the creation of rural improvement districts (RID's). RID's can be a good tool for maintaining infrastructure. The down side to such a mechanism is that it requires substantial resources from the jurisdiction to administrate the district.

SECTION III: BEST PRACTICES FOR ZONING REGULATIONS

A. INTRODUCTION:

These zoning regulation guidelines provide a list of development standards that can be administered through the use of local zoning regulations, for issues such as vegetation management on existing lots, the construction of driveways on existing lots, as well as the development of lots in new subdivisions.

B. PURPOSE:

The purpose of the WUI fire overlay district is to protect the public health, safety and welfare by establishing standards to:

1. Reduce threats to life safety, property, and resources by improving access to and defensibility of developments, homes and other property in wildland-urban interface areas;
2. Minimize the potential of spreading fire from wildland areas to structures and from structure fires to wildland areas and permit efficient suppression of fires;
3. Encourage development and construction standards that apply to the construction, alteration, moving, or change of use of residential, commercial, and accessory structures, with the intent to reduce the threat of loss of life and property due to wildland fires encroaching on developed areas;
4. Encourage cul-de-sacs, hammer head turnarounds, and turnouts on streets and roads providing legal and physical access to new subdivisions with the intent to provide better emergency access to remote areas;
5. Encourage homeowners and neighborhoods to plan, create, and maintain asset protection zones (defensible space) that utilize fire resistant construction and landscaping; and
6. Encourage that new subdivisions and planned unit developments developed in the WUI district provide water supply systems and suitable access for firefighting crews and apparatus, with the intent to increase the resources available to such crews and minimize the spread of a wildland or structure fire.

C. APPLICABILITY:

1. These regulations may apply to:
 - a. New subdivisions;
 - b. Construction of streets or roads used as legal and physical access to new subdivisions;
 - c. Construction of new private roads and driveways to existing lots or new subdivisions;
 - d. The construction of residential, commercial or accessory structures or the alteration, moving, or change of use for existing residential, commercial or accessory structures located within boundaries of the WUI as delineated on the WUI District map, the limits of which are adopted by the [Name

of the Governing Body] on [Appropriate Date], the limits of which are on file at the [Name of County] Clerk and Recorder's Office, or as hereinafter may be amended.

2. Accessory structures should be exempt from these regulations, except when located with the asset protection zone (defensible space).

D. STANDARDS:

1. FUEL MITIGATION

a. Asset Protection Zone (Defensible Space)

i. Any new construction or the alteration, moving, or change of use of an existing residential or commercial structure should be required to establish a minimum asset protection zone based on the attached guideline chart (See Asset Protection Zone Guidelines).

ii. Agricultural structures should not be allowed in the structure protection and landscape zones of the Asset Protection Zone (defensible space).

iii. All accessory structures within the Asset Protection Zone should meet the fire resistive construction standards established in these guidelines.

iv. Single specimens of trees, ornamental vegetation, cultivated ground cover (such as green grass, ivy, succulents, or similar plants), or native grasses and weeds trimmed to a maximum height of four inches, should be allowed provided any such plants do not form a means of readily transmitting fire.

b. All areas adjacent to streets, roads and driveways should be cleared of vegetation.

i. For driveways, all areas within five feet of each side of the driveway should be cleared.

ii. For streets and roads, the entire width of the access easement or right-of-way should be cleared.

Asset Protection Zone (Defensible Space) Distances*

Percent Slope	Distance from Assets		
	Uphill**	Sides**	Downhill**
Level to 20%	100 feet	100 feet	100 feet
21% to 40%	150 feet	150 feet	200 feet
41% to 60%	200 feet	200 feet	400 feet

*Adapted from "Wildland Home Fire Risk Meter," Simmerman and Fischer (1990)

** Refers to direction of slope from the structure.

2. SITE DEVELOPMENT AND BUILDING CONSTRUCTION STANDARDS

a. Steep Slopes. The construction of new structures or the relocation of existing structures should not be sited in areas where the slope exceeds 30 percent as measured before disturbance or alteration. Where existing structures are altered, moved, or there is change of use of an inhabitable structure on slopes that are not in compliance with the lot size requirements in the [*Jurisdiction's Name*] Subdivision

b. Buildings and building sites are prohibited within ravines or other topographical features which constitute "fire chimneys," and within 150 feet of the apex of "fire chimneys". Fire chimneys are topographical features, usually a natural drainage way, which tend to concentrate fire toward the top of steep slopes. Fire chimneys are generally less than one-half mile in length, have slopes of 20 percent or steeper, are less than 600 feet wide, and are at least 120 feet deep as measured from the bottom of the ravine to the crest of either adjacent ridge or slope.

c. Construction of Residential, Commercial, or Accessory Structures. The construction of new residential, commercial, or accessory structures and the substantial improvement, relocation, and replacement of existing structures should implement the following construction features:

i. Roofing materials should meet fire rating Class A or B as defined by the building code or the National Fire Protection Association. Exterior wood roofing of any type is prohibited.

ii. Chimneys and stove pipes should be provided with an approved spark arrestor constructed of a minimum 12-gauge welded wire or woven wire mesh, with the openings not to exceed one-half inch.

iii. Porches, decks, balconies, and similar overhanging projections should be constructed of heavy timber, as defined by local building standards, a one hour fire-resistive-rated assembly, or noncombustible materials.

iv. Attic openings; soffit vents; foundation louvers and vents; and other direct openings in outside walls, overhangs, and roofs should be no larger than 144 square inches and should be covered with one-quarter noncombustible, corrosion resistant metal mesh.

d. Vegetation Management Plan: Prior to any new construction or the alteration, moving, or change of use of an existing residential or commercial structure on an existing lot, a vegetation management plan should be

provided. Additionally, the developer of a new subdivision should provide a vegetation management plan for all property within the proposed subdivision, including the open space. The intent of the plan is to reduce fuel loading and provide continuous maintenance of the fuel load.

i. Existing Lot: The plan should be approved by the FPAHJ and shall be implemented prior to the construction of any new structures or the alteration, moving, or change of use of an existing structure on an existing lot.

ii. Subdivisions: The plan should be approved by the FPAHJ and should be implemented prior to the filing of the final plat for the subdivision.

iii. The plan should address managing vegetation to meet the following goals:

A. To protect life and property.

B. To reduce the potential for a fire on improved property from spreading into wildland fuels and from a fire in wildland fuels from spreading into improved property or structures. This also applies to reducing the potential for a fire spreading to or from lands adjacent to the subdivision.

C. To provide safe working areas for emergency responders fighting fire.

D. To maintain important native plant communities, the ecological processes that influence them, and consistency with fish and wildlife habitat conservation goals. Consulting with Montana Fish, Wildlife and Parks biologists in the preparation and implementation of the vegetation management plan is strongly encouraged.

iv. Prior to the construction of any new structures or the alteration, moving, or change of use of an existing structure on an existing lot all areas within five feet of each side of the driveway should be cleared of vegetation.

v. Prior to the filing of the final plat for a new subdivision, all areas adjacent to driveway, streets and roads within new subdivisions should be cleared of vegetation.

A. For streets or roads, the entire width of the access easement or street/road right-of-way should be cleared.

e. Improvements Prior to the Filing the Final Plat for a Subdivision: Water sources, wells, draft sites, hydrants, fire breaks, streets and roads providing access, and other fire protection equipment or features required by the preliminary plat approval for a new subdivision should be installed prior to construction of any residential or commercial structures in a new subdivision.

3. INGRESS AND EGRESS

Driveways and new public roads should meet the following standards:

a. Driveways.

- i. Driveways should be developed to within 50 feet of all dwelling units or commercial structures and 150 feet of non-habitable structures.
- ii. Construction - All driveways, including bridges and cattle guards, should be designed and constructed to be non-combustible and with an all-weather surface adequate to support the heaviest emergency vehicle likely to be operated on the driveway as designated by the FPAHJ.
- iii. Driveways greater than 150 feet in length should be provided with turnarounds, large enough to accommodate a fire engine.

b. Streets and Roads

- i. Legal and physical access to the lots in all new major subdivisions should be provided by a minimum of two approach routes, located as remotely from each other as possible to assure more than one escape route for residents and access routes by emergency vehicles.
 - A. Potential mitigation measures to include in an alternative development proposal to mitigate one way in and one way out include:
 - I. Larger asset protection zones
 - II. Fuel breaks along the roadways
 - III. Turnouts and pull outs
 - IV. Cul-de-sacs and hammer head turnaround
 - V. Increased flows of fire protection water supply
 - VI. Fire sprinklers
- ii. All new subdivisions should be designed to ensure that fire apparatus have access to within 150 feet of all portions of the buildings constructed on the lots in this proposed development.
- iii. The developer of a new subdivision should provide emergency access to all open space within the subdivision. The access should be sufficient

to provide access for wildland fire fighting vehicles (brush trucks). The fire protection accesses should be approved by the FPAHJ.

c. Gates

i. The clear opening provided through gates shall be two feet (0.61 m) wider than the traveled way.

ii. All gates should be located a minimum of 30 feet (9.2 m) from the public right-of-way and should not open outward.

iii. Fire department personnel should have ready access to locking mechanisms on any gate restricting access

d. Signage

i. All roads within a new subdivisions should be identified with approved non-combustible road signs that meet the applicable local standard

ii. All new residential or commercial structures on existing lots or within a new subdivision should be clearly identified with address numbers that are plainly visible and legible from the street prior to occupancy.

e. New Subdivisions and Planned Unit Developments

i. New subdivisions and planned unit developments should be served by an interconnected system of roadways and/or fire accesses such that emergency vehicles can travel to the lots from two directions.

ii. The developer of a new subdivision should provide a fire protection water supply meeting: INSERT BRUCE SUENRAM'S CODE LANGUAGE PER THE 6-23-08 MEETING

4. ALTERNATIVE DEVELOPMENT PROPOSAL

INSERT BRUCE SUENRAM'S CODE LANGUAGE PER THE 6-23-08 MEETING

5. MISCELLANEOUS

a. Mapping of Fire Protection Features

i. The developer of a new subdivision should provide to the "fire protection authority having jurisdiction" a detailed site map, including all fire protection features, i.e., access roads, hydrants systems, water supply points, etc. installed in the development.

b. Maintenance of Equipment and Features

- i. All fire protection equipment and features for new subdivisions should be properly maintained to provide at least the same level of performance and protection as originally designed for.
- c. Maintenance should be ensured through the use of ????????????????

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WUI ZONE INFORMATION

ASSET PROTECTION ZONE GUIDELINES			
Zones	Requirements	Recommendations	Comments
Zone 1 Structure Protection Zone			
0-5 feet from structure	<ul style="list-style-type: none"> ♦ Maintain non-combustible ground material 2-3 feet around structure (Planting beds, rock gardens, pavers, gravel or bare soil). ♦ Fire resistant plants required (See <i>Fire Resistant Plants for Montana Landscapes and Fire and Your Landscape</i>). ♦ Remove all pine needles and flammable ground materials. ♦ Prune tree limbs and branches within 10 feet of the roof. ♦ Remove tree limbs and branches within 10 feet of chimney. ♦ Use <i>Firewise</i> construction and landscaping concepts in this zone. 	<ul style="list-style-type: none"> ♦ Maintain low combustible ground covers. ♦ Minimize flammable vegetation in this zone provided it: <ul style="list-style-type: none"> ♦ does not touch or overhang the home ♦ are not species that retain dead material or deposit excessive quantities of ground fuel; and ♦ are located far enough away from the home so that they will not ignite the home by direct flame contact or radiant heat emission. ♦ Seasonally: <ul style="list-style-type: none"> ♦ keep roof and rain-gutters clear of needles and leaves. ♦ remove firewood piles from near the home (store outside the landscape zone during fire season). 	Wildland fire is the number one threat to the residents of Montana. The goal in this zone is to reduce the potential home ignition sources. What is done now will greatly enhance structure survivability and fire fighter safety.
Zone 2 Landscape Zone			
6-30 feet from structure	<ul style="list-style-type: none"> ♦ Maintained lawn or mowed grass (3-4") ♦ Remove pine needles and flammable ground materials ♦ Prune all trees so the lowest limbs are at least 6 to 10 feet above the ground. ♦ Minimum of 30 feet between crowns of native trees or "clumps", (maximum 5 feet 	<ul style="list-style-type: none"> ♦ Keep lawns watered (as conditions allow). ♦ Consider planting beds, rock gardens, xeriscaping, and fire resistant plants. ♦ Use bedding plants (<18" high). ♦ Consider non-flammable landscape material. ♦ If a moderate or high hazard area, consider fire-resistant 	The goal in this zone is to reduce radiant heat and to provide the critical space where firefighters might be deployed to defend the home.

	<p>trees/clump).</p> <ul style="list-style-type: none"> ♦ Maintain 20 feet between planting islands and groups of shrubs. 	<p>materials for patio furniture and other accessories around the home.</p> <ul style="list-style-type: none"> ♦ Keep patio cushions inside the home when not in use during periods of high fire potential. 	
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Zone 3 Forest/Wildland Transition Zone			
From 31 feet to 100 feet from home or business.	<ul style="list-style-type: none"> ♦ Mow the grassy fuels annually ♦ Preferred densities for native trees: <ul style="list-style-type: none"> ♦ Spacing – 20 feet X 20 feet ♦ Remove all ladder fuels. ♦ Maintain 20 feet between crowns of native trees or "clumps" (maximum 5 trees/clump) ♦ 20 feet between planting islands. ♦ Prune native tree limbs 8 feet from ground or 25% of tree height, which ever is less. 	<ul style="list-style-type: none"> ♦ Consider a mixture of deciduous and coniferous trees. Most deciduous trees do not support high intensity fires. ♦ Provide added protection with "fuel breaks", such as driveways, gravel walkways, and lawns. ♦ Provide access through fences for fire apparatus access to your remaining property. ♦ Consider coordination with neighboring properties. ♦ Store firewood and other combustibles in this zone. ♦ Recommend modifying the fuels to the property line for lots ≤ 2.5 acres. 	Treatment in this zone will create conditions unfavorable for a crown fire, and transition the wildland fire to a ground fire. Tree spacing is intended to reduce the ability to sustain a crown fire and to provide a radiant heat barrier to the residence.
Zone 4 Property Perimeter Buffer			
120 foot wide buffer around perimeter for lots > 2.5 acres	<ul style="list-style-type: none"> ♦ Remove heavy accumulations of woody debris, such as piles of stem wood or branches. ♦ Preferred densities for native trees: <ul style="list-style-type: none"> ♦ Spacing – 15 feet X 15 feet ♦ Remove all ladder fuels. ♦ Maintain 15 feet between crowns of native trees or "clumps" (maximum 5 trees/clump) ♦ 10 feet between planting islands. 	<ul style="list-style-type: none"> ♦ Prune native tree limbs minimum of 8 -15 feet from ground or 25% of tree height, which ever is less. ♦ Coordinate with neighboring properties. ♦ Treat entire perimeter of property. 	Treatment in this zone addresses wildland fire rate of spread and intensity. Consistent application of these treatments will create conditions where a crown fire could be transformed into a ground fire, slowing its rate of spread and creating an opportunity for fire suppression resources to safely respond. This zone starts at the property line and comes in a minimum of 120 feet.

Definitions:

Clumps – Groups of trees where crowns are less than ten feet apart

Crown – Outer edge of tree or "clumps" of trees

Native trees – lodgepole pine, ponderosa pine, Douglas fir, limber pine, Rocky Mountain juniper, spruce, quaking aspen

Pine needle removal – rake only down to the decomposing layer to avoid erosion problems

Ladder fuels – vegetation of different heights, close enough to allow a surface fire to spread vertically to the top of a tree.

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WUI ZONE INFORMATION

ASSET PROTECTION ZONE GUIDELINES			
Zones	Requirements	Recommendations	Comments
Zone 1 Structure Protection Zone			
0-5 feet from structure	<ul style="list-style-type: none"> ♦ Maintain non-combustible ground material 2-3 feet around structure (Planting beds, rock gardens, pavers, gravel, or bare soil). ♦ Fire resistant plants required (See <i>Fire Resistant Plants for Montana Landscapes and Fire and Your Landscape</i>). ♦ Remove all pine needles and flammable ground materials. ♦ Prune tree limbs and branches within 10 feet of the roof. ♦ Remove tree limbs and branches within 10 feet of chimney. ♦ Use <i>Firewise</i> construction and landscaping concepts in this zone. 	<ul style="list-style-type: none"> ♦ Maintain low combustible ground covers. ♦ Minimize flammable vegetation in this zone provided it: <ul style="list-style-type: none"> ♦ does not touch or overhang the home ♦ are not species that retain dead material or deposit excessive quantities of ground fuel; and ♦ are located far enough away from the home so that they will not ignite the home by direct flame contact or radiant heat emission. ♦ Seasonally: <ul style="list-style-type: none"> ♦ keep roof and rain-gutters clear of needles and leaves. ♦ remove firewood piles from near the home (store outside the landscape zone during fire season). 	Wildland fire is the number one threat to the residents of Montana. The goal in this zone is to reduce the potential home ignition sources. What is done now will greatly enhance structure survivability and firefighter safety.
Zone 2 Landscape Zone			
6-30 feet from structure	<ul style="list-style-type: none"> ♦ Maintained lawn or mowed grass (3-4 inches) ♦ Remove pine needles and flammable ground materials ♦ Prune all trees so the lowest limbs 	<ul style="list-style-type: none"> ♦ Keep lawns watered, (as conditions allow). ♦ Consider planting beds, rock gardens, xeriscaping, and fire resistant plants. 	The goal in this zone is to reduce radiant heat and to provide the critical space where fire fighters might be deployed to defend the home.

	<p>are at least 6 to 10 feet above the ground.</p> <ul style="list-style-type: none"> ♦ Minimum of 30 feet between crowns of native trees or “clumps”, (maximum 5 feet trees/clump). ♦ Maintain 20 feet between planting islands and groups of shrubs. 	<ul style="list-style-type: none"> ♦ Use bedding plants (<18 inches high). ♦ Consider non-flammable landscape material. ♦ If a moderate or high hazard area, consider fire-resistant materials for patio furniture and other accessories around the home. ♦ Keep patio cushions inside the home when not in use during periods of high fire potential. 	
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Zone 3 Forest/Wildland Transition Zone			
From 31 feet to 100 feet from home or business	<ul style="list-style-type: none"> ♦ Mow the grassy fuels annually ♦ Preferred densities for native trees: <ul style="list-style-type: none"> ♦ Spacing – 20 feet X 20 feet ♦ Remove all ladder fuels. ♦ Maintain 20 feet between crowns of native trees or “clumps” (maximum 5 trees/clump) ♦ 20 feet between planting islands. ♦ Prune native tree limbs 8 feet from ground or 25% of tree height, whichever is less. 	<ul style="list-style-type: none"> ♦ Consider a mixture of deciduous and coniferous trees. Most deciduous trees do not support high intensity fires. ♦ Provide added protection with "fuel breaks," such as driveways, gravel walkways, and lawns. ♦ Provide access through fences for fire apparatus access to your remaining property. ♦ Consider coordination with neighboring properties. ♦ Store firewood and other combustibles in this zone. ♦ Recommend modifying the fuels to the property line for lots ≤ 2.5 acres. 	Treatment in this zone will create conditions unfavorable for a crown fire, and transition the wildland fire to a ground fire. Tree spacing is intended to reduce the ability to sustain a crown fire and to provide a radiant heat barrier to the residence.
Zone 4 Property Perimeter Buffer			
120 foot wide buffer around perimeter for lots > 2.5 acres	<ul style="list-style-type: none"> ♦ Remove heavy accumulations of woody debris, such as piles of stem wood or branches. ♦ Preferred densities for native trees: <ul style="list-style-type: none"> ♦ Spacing – 15 feet X 15 feet ♦ Remove all ladder fuels. ♦ Maintain 15 feet between crowns of native trees or “clumps” (maximum 5 trees/clump) ♦ 10 feet between planting islands. 	<ul style="list-style-type: none"> ♦ Prune native tree limbs min 8 -15 feet from ground or 25% of tree height, which ever is less. ♦ Coordinate with neighboring properties. ♦ Treat entire perimeter of property. 	Treatment in this zone addresses wildland fire rate of spread and intensity. Consistent application of these treatments will create conditions where a crown fire could be transformed into a ground fire, slowing its rate of spread and creating an opportunity for fire suppression resources to safely respond. This zone starts at the property line and comes in a minimum of 120 feet.

Definitions:

Clumps – Groups of trees where crowns are less than ten feet apart

Crown – Outer edge of tree or "clumps" of trees

Native trees – lodgepole pine, ponderosa pine, Douglas fir, limber pine, Rocky Mountain juniper, spruce, quaking aspen

Pine needle removal – rake only down to the decomposing layer to avoid erosion problems

Ladder fuels – vegetation of different heights, close enough to allow a surface fire to spread vertically to the top of a tree.

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SECTION IV. WATER SUPPLY

A. General: New subdivisions should have an adequate water supply for the use of the fire protection service to protect buildings and structures from exterior fire sources or to suppress structure fires within the WUI area of the jurisdiction in accordance with these guidelines.

1. Exception: Buildings containing only private garages, carports, sheds, and agricultural buildings with a floor area of not more than 600 square feet (56 m²).

B. Water Sources: The point at which a water source is available for use should be located not more than one-half mile from the building and be approved by the code official. The distance should be measured along an unobstructed line of travel. Water sources should comply with the following:

1. Manmade water sources shall have a minimum usable water volume as determined by the adequate water supply needs in accordance with the Adequate Water Supply section. This water source should be equipped with an approved hydrant. The water level of the water source should be maintained by rainfall, water pumped from a well, or by seasonal high water of a stream or river. The design, construction, location, water level maintenance, access, and access maintenance of manmade water sources should be approved by the code official.

2. Natural water sources should have a minimum annual water level or flow sufficient to meet the adequate water supply needs in accordance with the Adequate Water Supply section. This water level or flow shall not be rendered unusable because of freezing. This water source should have an approved draft site with an approved hydrant. Adequate water flow and rights for access to the water source should be ensured in a form acceptable to the code official.

C. Draft Sites: Approved draft sites should be provided at all natural water sources intended for use as fire protection for compliance with this code. The design, construction, location, access, and access maintenance of draft sites should be approved by the code official. The draft site should have emergency vehicle access from an access road. The pumper access point should be either an emergency vehicle access area alongside a conforming access road or an approved driveway no longer than 150 feet (45 720 mm). Pumper access points and access driveways should be designed and constructed in accordance with all codes and ordinances. Pumper access points should not require the pumper apparatus to obstruct a road or driveway.

D. Hydrants: All hydrants should be designed and constructed in accordance with nationally recognized standards. The location and access should be approved by the code official.

E. Adequate Water Supply: Adequate water supply should be determined for purposes of initial attack and flame front control as follows:

1. One- and two-family dwellings. The required water supply for one- and two-family dwellings having a fire area that does not exceed 3600 square feet (334 m²) shall be 1000 gallons per minute (63.1 L/s) for a minimum duration of 30 minutes. The required water supply for one- and two-family dwellings having a fire area in excess of 3600 square feet (334 m²) shall be 1500 gallons per minute (95 L/s) for a minimum duration of 30 minutes.

a. Exception: A reduction in required flow rate of 50 percent, as approved by the code official, is allowed when the building is provided with an approved automatic sprinkler system.

2. Buildings other than one- and two-family dwellings. The water supply required for buildings other than one and two-family dwellings should be as approved by the code official but shall not be less than 1500 gallons per minute (95 L/s) for a duration of two hours.

a. Exception: A reduction in required flow rate of up to 75 percent, as approved by the code official, should be allowed when the building is provided with an approved automatic sprinkler system. The resulting water supply should not be less than 1500 gallons per minute (94.6 L/s).

3. Commercial or Industrial Lots. For any subdivision containing commercial or industrial lots, the current adopted Montana State Fire Code water requirements will be used. Water amounts shall be determined by the size and building construction type of each commercial or industrial building.

F. Fire Protection Authority: The water supply encouraged by these guidelines should only be approved when a fire-protection authority is available.

G. Obstructions: Access to all water sources encouraged by these guidelines should be unobstructed at all times. The code official should not be deterred or hindered from gaining immediate access to water source equipment, fire protection equipment, or hydrants.

H. Identification: Water sources, draft sites, hydrants and fire protection equipment and hydrants should be clearly identified in a manner approved by the code official to identify location and to prevent obstruction by parking and other obstructions.

I. Testing and Maintenance: Water sources, draft sites, hydrants and other fire protection equipment required by this code should be subject to periodic tests as required by the code official. All such equipment installed under the provisions of these guidelines should be maintained in an operative condition at all times and should be repaired or replaced where defective. Additions, repairs, alterations, and servicing of such fire protection equipment and resources should be in accordance with approved standards.

K. Reliability: Water supply reliability should comply with subsections N, O, and P below.

L. Objective: The objective of this section is to increase the reliability of water supplies by reducing the exposure of vegetative fuels to electrically powered systems.

M. Clearance of fuel: Defensible space should be provided around water tank structures, water supply pumps, and pump houses.

N. Standby Power: Stationary water supply facilities within the WUI area dependent on electrical power to meet adequate water supply demands should provide standby power systems in accordance with the ICC *Electrical Code* to ensure that an uninterrupted water supply is maintained. The standby power source should be capable of providing power for a minimum of two hours.

1. Exceptions:

a. When approved by the code official, a standby power supply is not required where the primary power service to the stationary water supply facility is underground.

b. A standby power supply is not necessary where the stationary water supply facility has the ability to deliver the water supply without power (i.e., an elevated tank or a fire hydrant).

SECTION V. FINANCIAL ASSISTANCE FOR DEVELOPMENT WITHIN THE WILDLAND-URBAN INTERFACE

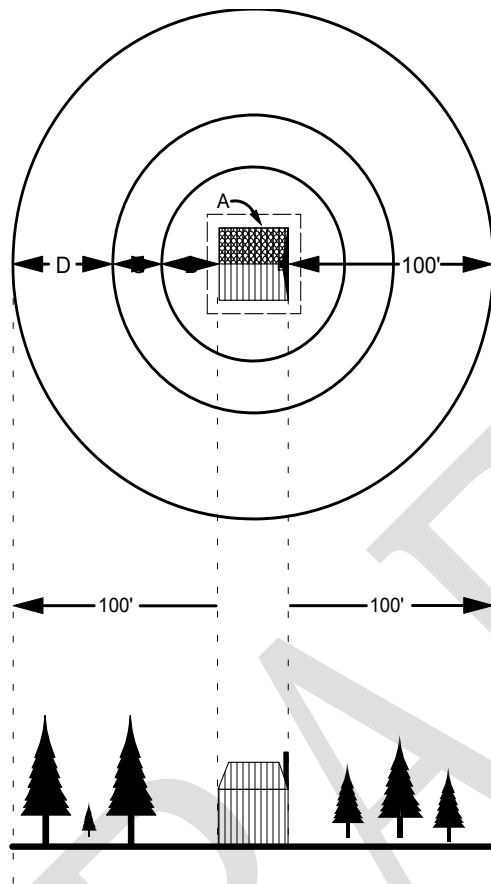
A. CRITERIA FOR FINANCIAL ASSISTANCE:

In general, DNRC will provide financial assistance to local government entities (counties, cities, municipalities, fire districts, and fire departments) as those entities are set forth and provided for in Title 7, chapter 33 of the Montana Code Annotated, to encourage adoption of best practices for development within the wildland-urban interface if local government entities have adopted a Community Wildfire Protection Plan and have adopted relevant and effective provisions of these guidelines with respect to development in the WUI by October 1, 2009.

DRAFT

APPENDICES, REFERENCES AND SOURCE MATERIALS

VEGETATION REDUCTION GUIDELINES 0% TO 10% SLOPE



A = THE FIRST 3 FEET OF B

Maintain an area of non-combustible material - flowers, plants, concrete, gravel, mineral soil, etc.

B = 10 FEET

Remove all trees and downed woody fuels.

C = 20 FEET

Thin trees to 10 feet between crowns.

Prune limbs of all remaining trees to 15 feet or one-third the total live crown height, whichever is less.

Maintain surface vegetation at 3 inches or less.

Remove all downed woody fuels.

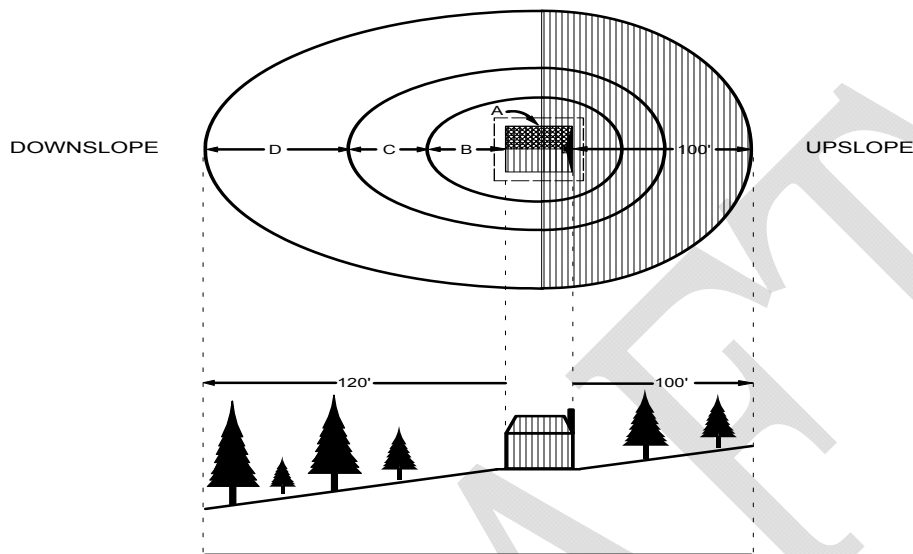
D = 70 FEET

Thin trees to 10 feet between crowns.

Prune limbs of all remaining trees to 15 feet or one-third the total live crown height, whichever is less.

Remove all downed woody fuels more than 3 inches in diameter.

VEGETATION REDUCTION GUIDELINES 10% TO 20% SLOPE



The shaded areas (upslope) of B, C, and D remain a constant distance of 10 feet, 20 feet, and 70 feet respectively. The shaded area begins from the mid-section of a structure. The unshaded areas (downslope) of B, C, and D increase with slope as detailed below:

A = THE FIRST 3 FEET OF B

Maintain an area of non-combustible material - flowers, plants, concrete, gravel, mineral soil, etc.

B = 15 FEET

Remove all trees and downed woody fuels.

C = 25 FEET

Thin trees to 10 feet between crowns.

Prune limbs of all remaining trees to 15 feet or one-third the total live crown height, whichever is less.

Maintain surface vegetation at 3 inches or less.

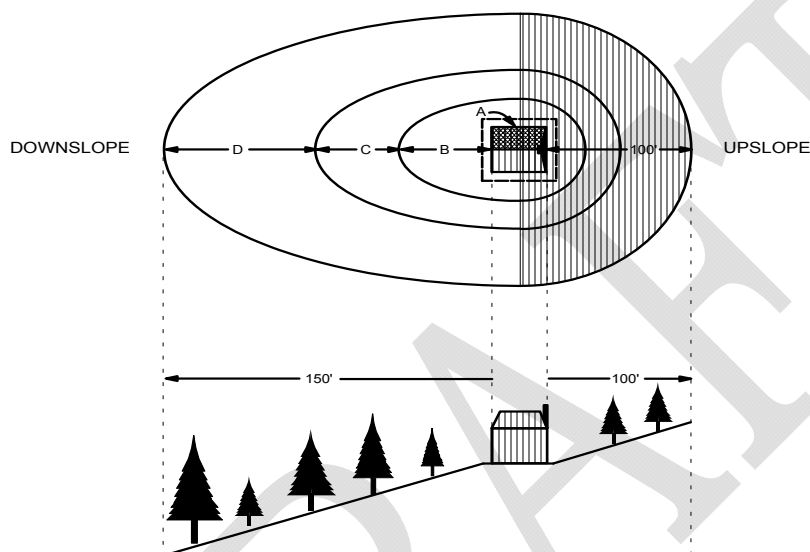
Remove all downed woody fuels.

D = 80 FEET

Thin trees to 10 feet between crowns.

Prune limbs of all remaining trees to 15 feet or one-third the total live crown height, whichever is less.
Remove all downed woody fuels more than 3 inches in diameter.

VEGETATION REDUCTION GUIDELINES 20% TO 30% SLOPE



The shaded areas (upslope) of B, C, and D remain a constant distance of 10 feet, 20 feet, and 70 feet respectively. The shaded area begins from the mid-section of a structure. The unshaded areas (downslope) of B, C, and D increase with slope as detailed below:

A = THE FIRST 3 FEET OF B

Maintain an area of non-combustible material - flowers, plants, concrete, gravel, mineral soil, etc.

B = 20 FEET

Remove all trees and downed woody fuels.

C = 30 FEET

Thin trees to 10 feet between crowns.

Prune limbs of all remaining trees to 15 feet or one-third the total live crown height, whichever is less.

Maintain surface vegetation at 3 inches or less.

Remove all downed woody fuels.

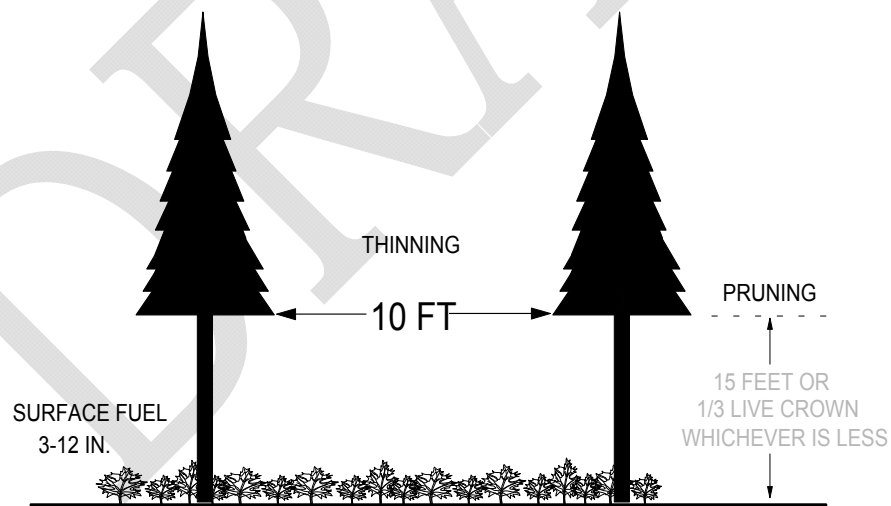
D= 100 FEET

Thin trees to 10 feet between crowns.

Prune limbs of all remaining trees to 15 feet or one-third the total live crown height, whichever is less.

Remove all downed woody fuels more than 3 inches in diameter.

VEGETATION REDUCTION GUIDELINES THINNING AND PRUNING



In areas where vegetation modification is prescribed, use the following guidelines:

A THINNING:

Thin trees to 10 feet between crowns.

B. PRUNING:

Prune the limbs of all remaining trees to 15 feet or one-third the total live crown height, whichever is less.

C. SURFACE VEGETATION:

Maintain surface vegetation at 3 inches to 12 inches as detailed.

DRAFT

**APPENDIX A - FORM A
RISK RATING OF EXISTING DEVELOPMENT
FIELD DATA COLLECTION FORM**

DRAFT

EXISTING DEVELOPMENT
FORM A - FIELD DATA COLLECTION FORM
(Rev. 3/93)

RATING AREA: _____ DATE: _____ RATED BY: _____

- 1) **NUMBER OF PRIMARY ACCESS ROADS** _____
- 2) **NUMBER OF ALTERNATIVE ACCESS ROUTES** _____
- 3) **WIDTH OF ROAD SURFACE + SHOULDER ON PRIMARY ACCESS ROADS**

- 4) **MAXIMUM ROAD GRADE IN THE AREA (PRIMARY, ALT., SECONDARY)**

5) **SECONDARY ROADS END AS:**

Loops or > 90' Diameter Cul de Sacs _____

70-90' Diameter Cul de Sacs _____

< 70' Diameter Cul de Sacs _____

Dead Ends - No Cul de Sac _____

6) **BRIDGES ON PRIMARY ACCESS ROADS ARE:**

> 40 Ton Capacity _____

20-40 Ton Capacity _____

< 20 Ton Capacity _____

No Bridges _____

7) **BRIDGES ON SECONDARY ROADS ARE:**

20-40 Ton Capacity _____

< 20 Ton Capacity _____

No Bridges _____

8) PREDOMINANT SLOPE IN AND AROUND THE INHABITED AREA IS:

0 - 10% _____

11 - 20% _____

21 - 30% _____

> 30% _____

9) PREDOMINANT ASPECT IS:

North (316 degrees through 45 degrees) _____

East (46 degrees through 135 degrees) _____

Level _____

West (226 degrees through 315 degrees) _____

South (136 degrees through 225 degrees) _____

10) DANGEROUS TOPOGRAPHIC FEATURES PRESENT ARE:

None _____

Adjacent Steep Slopes _____

Draws/Ravines _____

Chimneys, Canyons, Saddles _____

11) PREDOMINANT FUEL TYPE IS:

Grass will be the main fuel type in the rating area
around more than 90% of existing structures. _____

Low brush fields, or open timber stands will exist in
the rating area around more than 10% of existing structures. _____

Dense timber stands or high brush fields will exist in the rating area around more than 10% of existing structures. _____

Slash and/or bug killed timber stands will exist in rating area and won't be removed by development or dense stands of lodgepole pine trees will remain around more than 10% of existing structures. _____

DRAFT

12) RISKS PRESENT ARE:

Campgrounds/Campsites/Picnic Grounds _____

Children (playgrounds, schools, etc.) _____

Commercial Businesses _____

Debris Burning _____

Domestic Wood Heat _____

Farming/Ranching _____

Mills _____

Mines _____

Powerlines _____

Railroads _____

Recreation Sites (gun clubs, 4x4/motorbike areas,
kegger sites, etc.) _____

Travel Routes (highways, etc.) _____

Other(s) - Describe each _____

13) WORST-CASE ELECTRICAL SERVICE IS:

All utilities in the existing development rating area are
underground. _____

Rating area utilities will include underground and/or well maintained
above ground powerlines with cleared rights-of-way. Trees
or improvements which could blow over into powerlines do not
exist or are properly maintained. _____

Rating area utilities include above ground powerlines. Fuel
build-up is present in existing rights-of-way, or
improvements exist which could blow over onto powerlines. _____

14)HOW MANY HOMES ARE IN THE RATING AREA? _____

15)HOW MANY HOMES HAVE FIRE RESISTANT ROOFING? _____

16)HOW MANY HOMES HAVE UNENCLOSED BALCONIES, DECKS,
EAVES, STILTS, CANTILEVERED CONSTRUCTION, ETC.? _____

17)HOMES ARE SPACED:

> 100' Apart _____

60-100' _____

< 60' Apart _____

18)HOW MANY HOMES MEET THE FIRE-RESISTANT LANDSCAPING
GUIDELINES (See Appendix F) _____

19)ARE HYDRANTS AVAILABLE? Yes _____

No _____

20)IF YES, AT WHAT SPACING? _____

21)IF YES, ARE THEY 500(+) GPM? Yes _____

No _____

22)DRAFT SOURCES ARE:

Accessible By Hoselay _____

Within 5 Miles Via Primary Access Roads _____

Available, But Need To Be Developed _____

Distant or Unavailable _____

23)HELICOPTER DIP SPOTS ARE:

Under 2 minute turnaround (< 1 mi.) _____

Within 2-5 minute turnaround (1-2 mi.) _____

Within 6 minute turnaround (3 mi.) _____

Distant or Unavailable _____

24) IS RATING AREA IN A RURAL FIRE DISTRICT, FIRE SERVICE AREA OR MUNICIPAL FIRE DEPARTMENT? Yes _____

No _____

25) FIRE DEPARTMENT RESPONSE:

Fire dept. can respond w/in 5 minutes - VFC? _____

Fire dept. can respond in 6-15 minutes - VFC? _____

Fire dept. can respond in 16-30 minutes - VFC? _____

26) IS THERE A WAY TO CONTACT HOMEOWNERS? Yes _____

No _____

27) IF YES, WHAT TYPE OF GROUP(S)?

Formal, Well Organized Group _____

Informal, Loosely Organized Group _____

Multiple Groups _____

28) AVERAGE NUMBER OF FIRES/1000 AC./10 YEARS _____

**APPENDIX B - FORM B
RESIDENTIAL TALLY SHEET**

DRAFT

FORM B – RESIDENTIAL TALLY SHEET
RATING AREA

1. Total No. Residences	2. No. with Fire Resistant Roof	3. No. with Unenclosed Features	4. 60' to Next Residence	5. 60' - 100' to next Residence	6. 100' to next Residence	7. Meets Landscaping Req. (appendix F)

DOT OR LINE TALLY EACH ITEM.

- 1) TALLY TOTAL NUMBER OF RESIDENCES IN RATING AREA
- 2) TALLY NUMBER OF RESIDENCES WITH FIRE RESISTANT ROOFING (COMPOSITE, METAL, OR TILE) NO WOOD SHAKES OR SHINGLES
- 3) TALLY NUMBER OF RESIDENCES WITH OVERHANGING FEATURES WHICH ARE NOT ENCLOSED UNDERNEATH DECK OR FLOOR LEVEL (BALCONIES, DECKS, STILTS ETC.)

- 4) TALLY NUMBER OF RESIDENCES WHICH HAVE LESS THAN 60 FEET BETWEEN THEM AND THE NEAREST ADJACENT RESIDENCE
- 5) TALLY NUMBER OF RESIDENCES WHICH HAVE 60 FEET TO – 100 FEET BETWEEN THEM AND THE NEAREST ADJACENT RESIDENCE
- 6) TALLY NUMBER OF RESIDENCES WITH 100 FEET BETWEEN THEM AND THE NEAREST ADJACENT RESIDENCE
- 7) TALLY NUMBER OF RESIDENCES THAT MEET THE FIRE RESISTANT LANDSCAPING STANDARDS FOR THEIR LOCATION

APPENDIX B

**APPENDIX C - FORM C
RISK RATING OF EXISTING DEVELOPMENT
RATINGS FORM**

DRAFT

**EXISTING DEVELOPMENT
FORM C - RATING FORM**
(Rev. 3/93)

RATING AREA: _____ **DATE:** _____ **RATED BY:** _____

ROADS

ROAD ACCESS - Items 1 and 2

- Multiple primary access roads = 0
- Two primary access roads = 1
- One primary + one alternative access road = 2
- One-way in/out = 3
- No primary access roads = 4

ROAD SURFACE WIDTH, PRIMARY ACCESS ROUTES - Item 3

- > 28' Road Surface + Shoulder = 1
- 28' Road Surface + Shoulder = 2
- 16 - < 28' Road Surface + Shoulder = 3
- < 16' Road Surface + Shoulder = 4

MAXIMUM ROAD GRADE - Item 4

- 0-5% = 1
- 6-8% = 2
- > 8 - 10% = 3
- > 10% = 4

SECONDARY ROAD ENDINGS - Item 5

- Loops or > 90' Diameter Cul de Sacs = 1
- Cul de Sac Diameter 70-90' = 2
- Cul de Sac Diameter <70' = 3
- Dead Ends - No Cul de Sac = 4

BRIDGES - Items 6 and 7

- No Bridges = 1
- 40 Ton(+) limit on access bridges = 2
- 20-39 Ton limit on all access bridges = 3
- < 20 Ton limit any access bridge = 4

TOPOGRAPHY

SLOPE - Item 8

- 0-10% = 2
- 11-20% = 4
- 21-30% = 6
- > 30% = 8

ASPECT - Item 9

- North (315 degrees through 45 degrees) = 0
- East (46 degrees through 135 degrees)
= 1
- Level = 2
- West (226 degrees through 315 degrees) = 3
- South (136 degrees through 225 degrees) = 4

MOST DANGEROUS FEATURE - Item 10

- None = 2
- Adjacent Steep Slopes = 4
- Draws/Ravines = 6
- Chimneys, Canyons, Saddles = 8

FUELS

FUEL TYPE - Item 11

- Grass around >90% of structures = 5
- Low brush field, or open timber around >10% of structures = 10
- Dense conifer or brush field exist around >10% of structures = 15
- Slash, bug kill, dense lodgepole pine exist around >10% of structures = 20

RISK SOURCES - total from Item 12

- 0-4 Risk Sources Present = 5
- 5-8 Risk Sources Present = 10
- 9-12 Risk Sources Present = 15
- 13+ Risk Sources Present = 20

ELECTRICAL UTILITIES - Item 13

- All Underground = 0
- Above Ground/Underground Combination (Well Maintained) = 10
- Above Ground (Poorly Maintained) = 20

HOMES

ROOF MATERIAL - Item 15

- 90-100% of homes have metal, composition, tile, or other fire resistant roofing = 5
- 80-89% of homes have metal, composition, tile or, other fire resistant roofing = 10
- 75-79% of homes have metal, composition, tile, or other fire resistant roofing = 15
- < 75% of homes have metal, composition, tile, or other fire resistant roofing = 20

UNENCLOSED BALCONIES, DECKS, EAVES, STILTS, ETC. - Item 16

- < 10% of homes have unenclosed balconies, decks, eaves, stilts, etc. = 1
- 10-20% of homes have unenclosed balconies, decks, eaves, stilts, etc. = 2
- 21-25% of homes have unenclosed balconies, decks, eaves, stilts, etc. = 3
- > 25% of homes have unenclosed balconies, decks, eaves, stilts, etc. = 5

DENSITY OF HOMES - Item 17

- (For 0-30% slope)
- > 100' between homes = 1
- 0-100' between homes = 3
- < 60' between homes = 5
- (For 31-50% slope)
- > 100' between homes = 2
- 60'100' between homes = 4
- < 60' between homes = 6

LANDSCAPING - Item 18

- 76-100% homes meet the fire-resistant landscaping guidelines in Appendix F = 2
- 51-75% homes meet the fire-resistant landscaping guidelines in Appendix F = 4
- 26-50% homes meet the fire-resistant landscaping guidelines in Appendix F = 6
- 0-25% homes meet the fire-resistant landscaping guidelines in Appendix F = 9

WATER SUPPLY

HYDRANTS - Items 19, 20 and 21

- 500 GPM hydrants available on < 660' spacing = 2
- 500 GPM hydrants available = 4
- < 500 GPM hydrants available = 6
- No hydrants = 8

DRAFT SOURCES - Item 22

- Accessible Sources Available Within Hoselay Distance = 2
- Draft Sources Available Within 5 mi. via primary access roads = 4
- Draft Sources Require Development = 6
- Draft Sources Unavailable = 8

HELICOPTER DIP SPOTS - Item 23

- Under 2 min. turnaround (<1 mi.) = 1
- Within 2-5 min. turnaround (1-2 mi.) = 2
- Within 6 min. turnaround (3 mi.) = 3
- Beyond 6 min. turnaround or Unavailable = 4

STRUCTURAL FIRE PROTECTION - Items 24 and 25

- ≤ 5 min. from fire department = 5; if VFC = 10
- 6-15 min. from fire department = 10; if VFC = 15
- 16-30 min. from fire department = 15; if VFC = 20
- No RFD, FSA, municipal fire district or VFC? = 20

HOMEOWNER CONTACT - Items 26 and 27

- Central contact - formal/well organized group (e.g., a homeowners assoc.) = 5
- Less central contact - an informal/loosely organized group (e.g., a civic club or development office) = 10
- Multiple groups - different contacts representing different parts of the community = 15
- No organized contacts = 20

FIRE OCCURRENCE - Item 28

- .00-.10 Fires/1000 ac./10 yr. = 5
- .11-.20 Fires/1000 ac./10 yr. = 10
- .21-.40 Fires/1000 ac./10 yr. = 15
- .40+ Fires/1000 ac./10 yr. = 20

TOTAL SCORE

- ≤ 110 low risk - low priority
- 111-135 moderate risk - moderate priority
- 136-150 high risk - high priority
- 151-170 very high risk - very high priority
- ≥ 171 extreme risk - extreme priority

**APPENDIX D - FORM A
RISK RATING OF PLANNED DEVELOPMENT
RATINGS FORM**

DRAFT

**RISK RATING PLANNED DEVELOPMENT
FORM A - FIELD DATA COLLECTION FORM**
(Rev. 3/93)

RATING AREA: _____ **DATE:** _____ **RATED BY:** _____

- 1) **NUMBER OF PRIMARY ACCESS ROADS** _____
- 2) **NUMBER OF ALTERNATIVE ACCESS ROUTES** _____
- 3) **WIDTH OF ROAD SURFACE + SHOULDER ON PRIMARY ACCESS ROADS**

- 4) **MAXIMUM ROAD GRADE IN THE AREA (PRIMARY, ALT., SECONDARY)**

5) **SECONDARY ROADS END AS:**

Loops or > 90' Diameter Cul de Sacs _____

70-90' Diameter Cul de Sacs _____

< 70' Diameter Cul de Sacs _____

Dead Ends - No Cul de Sac _____

6) **BRIDGES ON PRIMARY ACCESS ROADS ARE:**

> 40 Ton Capacity _____

20-40 Ton Capacity _____

< 20 Ton Capacity _____

No Bridges _____

7) **BRIDGES ON SECONDARY ROADS ARE:**

20-40 Ton Capacity _____

< 20 Ton Capacity _____

No Bridges _____

DRAFT

8) PREDOMINANT SLOPE IN AND AROUND THE INHABITED AREA IS:

0 - 10% _____

11 - 20% _____

21 - 30% _____

> 30% _____

9) PREDOMINANT ASPECT IS:

North (316 degrees through 45 degrees) _____

East (46 degrees through 135 degrees) _____

Level _____

West (226 degrees through 315 degrees) _____

South (136 degrees through 225 degrees) _____

10) DANGEROUS TOPOGRAPHIC FEATURES PRESENT ARE:

None _____

Adjacent Steep Slopes _____

Draws/Ravines _____

Chimneys, Canyons, Saddles _____

11) PREDOMINANT FUEL TYPE IS:

Grass will be the main fuel type in the rating area
around more than 90% of existing structures. _____

Low brush fields or open timber stands will exist in
the rating area around more than 10% of existing structures. _____

Dense timber stands or high brush fields will exist in the

rating area around more than 10% of existing structures. _____

Slash and/or bug killed timber stands will exist in rating area and will not be removed by development or dense stands of lodgepole pine trees will remain around more than 10% of existing structures. _____

DRAFT

12) RISKS PRESENT ARE:

Campgrounds/Campsites/Picnic Grounds _____

Children (playgrounds, schools, etc.) _____

Commercial Businesses _____

Debris Burning _____

Domestic Wood Heat _____

Farming/Ranching _____

Mills _____

Mines _____

Powerlines _____

Railroads _____

Recreation Sites (gun clubs, 4x4/motorbike areas, kegger sites, etc.) _____

Travel Routes (highways, etc.) _____

Other(s) - Describe each _____

13) WORST-CASE ELECTRICAL SERVICE IS:

All utilities in planned for development or existing in rating area are underground. _____

Rating area utilities will include underground and/or well maintained above ground powerlines with cleared rights-of-way. Trees or improvements which could blow over into powerlines do not exist or are properly maintained. _____

Rating area utilities include above ground powerlines. Fuel build-up is present in existing rights-of-way, or improvements exist which could blow over onto powerlines. _____

14)HOW MANY HOMES ARE PLANNED FOR THE DEVELOPMENT? _____

15)HOW MANY HOMES WILL HAVE FIRE RESISTANT ROOFING? _____

16)HOMES ARE SPACED:

> 100' Apart _____

60-100' _____

< 60' Apart _____

17)HOW MANY HOMES WILL MEET THE FIRE-RESISTANT LANDSCAPING GUIDELINES (See Appendix F) _____

18)DOES THE PROJECT DESIGN INCORPORATE GREENBELTS OR FUEL BREAKS? Yes _____

No _____

19)WILL HYDRANTS BE AVAILABLE? Yes _____

No _____

20)IF YES, AT WHAT SPACING? _____

21)IF YES, ARE THE HYDRANTS PLACED AS DESIRED BY THE FIRE DEPARTMENT? Yes _____

No _____

22)IF HYDRANTS PLANNED, ARE THEY 500(+) GPM? DEPARTMENT? Yes _____

No _____

23)DRAFT SOURCES ARE:

Accessible By Hoselay _____

Within 5 Miles Via Primary Access Roads _____

Available, But Need To Be Developed _____

Distant or Unavailable _____

24)HELICOPTER DIP SPOTS ARE:

Under 2 minute turnaround (< 1 mi.) _____

Within 2-5 minute turnaround (1-2 mi.) _____

Within 6 minute turnaround (3 mi.) _____

Distant or Unavailable _____

25)IS RATING AREA IN A RURAL FIRE DISTRICT, FIRE SERVICE AREA OR MUNICIPAL FIRE DEPARTMENT? Yes _____

No _____

26)FIRE DEPARTMENT RESPONSE:

Fire dept. can respond w/in 5 minutes - VFC? _____

Fire dept. can respond in 6-15 minutes - VFC? _____

Fire dept. can respond in 16-30 minutes - VFC? _____

27)WILL THERE BE A WAY TO CONTACT HOMEOWNERS? Yes _____

No _____

28)IF YES, WHAT TYPE OF GROUP(S)?

Formal, Well Organized Group _____

Informal, Loosely Organized Group _____

Multiple Groups _____

29)AVERAGE NUMBER OF FIRES/100 AC./10 YEARS _____

APPENDIX E - FORM B
RISK RATING OF PLANNED DEVELOPMENT
RATINGS FORM

DRAFT

RISK RATING OF PLANNED DEVELOPMENT
FORM B - RATING FORM
(Rev. 3/93)

RATING AREA: _____ **DATE:** _____ **RATED BY:** _____

ROADS

ROAD ACCESS - Items 1 and 2

- Multiple primary access roads = 0
- Two primary access roads = 1
- One primary + one alternative access road = 2
- One-way in/out = 3
- No primary access roads = 4

ROAD SURFACE WIDTH, PRIMARY ACCESS ROUTES - Item 3

- > 28' Road Surface + Shoulder = 1
- 28' Road Surface + Shoulder = 2
- 16 - < 28' Road Surface + Shoulder = 3
- < 16' Road Surface + Shoulder = 4

MAXIMUM ROAD GRADE - Item 4

- 0-5% = 1
- 6-8% = 2
- > 8 - 10% = 3
- > 10% = 4

SECONDARY ROAD ENDINGS - Item 5

- Loops or > 90' Diameter Cul de Sacs = 1
- Cul de Sac Diameter 70-90' = 2
- Cul de Sac Diameter <70' = 3
- Dead Ends - No Cul de Sac = 4

BRIDGES - Items 6 and 7

- No Bridges = 0
- 40 Ton(+) limit on access bridges = 1
- 20-39 Ton limit on all access bridges = 2
- < 20 Ton limit any access bridge = 4

TOPOGRAPHY

SLOPE - Item 8

- 0-10% = 2
- 11-20% = 4
- 21-30% = 6
- > 30% = 8

ASPECT - Item 9

- North (315 degrees through 45 degrees) = 0
- East (46 degrees through 135 degrees) = 1
- Level = 2
- West (226 degrees through 315 degrees) = 3
- South (136 degrees through 225 degrees) = 4

MOST DANGEROUS FEATURE - Item 10

- None = 2
- Adjacent Steep Slopes = 4
- Draws/Ravines = 6
- Chimneys, Canyons, Saddles = 8

FUELS

FUEL TYPE - Item 11

- Grass around >90% of structures = 5
- Low brush field, or open timber around >10% of structures = 10
- Dense conifer or brush field exist around >10% of structures = 15
- Slash, bug kill, dense lodgepole pine exist around >10% of structures = 20

RISK SOURCES - total from Item 12

- 0-4 Risk Sources Present = 0
- 5-8 Risk Sources Present = 5
- 9-12 Risk Sources Present = 7
- 13+ Risk Sources Present = 10

ELECTRICAL UTILITIES - Item 13

- All Underground = 0
- Above Ground/Underground Combination (Well Maintained) = 5
- Above Ground (Poorly Maintained) = 10

HOMES

ROOF MATERIAL - Item 15

- 90-100% of homes have metal, composition, tile, or other fire resistant roofing = 0
- 80-89% of homes have metal, composition, tile, or other fire resistant roofing = 5
- 75-79% of homes have metal, composition, tile, or other fire resistant roofing = 7
- < 75% of homes have metal, composition, tile, or other fire resistant roofing = 10

DENSITY OF HOMES - Item 16

- (For 0-30% slope)
- > 100' between homes = 0
- 0-100' between homes = 4
- < 60' between homes = 8
- (For 31-50% slope)
- > 100' between homes = 2
- 60'100' between homes = 6
- < 60' between homes = 10

LANDSCAPING - Item 17

- 76-100% homes meet the fire-resistant landscaping guidelines in Appendix F = 5
- 51-75% homes meet the fire-resistant landscaping guidelines in Appendix F = 10
- 26-50% homes meet the fire-resistant landscaping guidelines in Appendix F = 15
- 0-25% homes meet the fire-resistant landscaping guidelines in Appendix F = 20

GREENBELT AND FUEL BREAKS – Item 18

- Project design incorporates greenbelts and/or fuel breaks = 0
- Project design does not incorporate greenbelts and/or fuel breaks = 10

WATER SUPPLY

HYDRANTS - Items 19, 20 and 21

- 500 GPM hydrants available on < 660' spacing placed as desired by FD = 0
- 500 GPM hydrants available on < 660' spacing = 2
- 500 GPM hydrants available = 4
- < 500 GPM hydrants available = 6
- No hydrants = 8

DRAFT SOURCES - Item 22

- Accessible Sources Available Within Hoselay Distance = 2
- Draft Sources Available Within 5 mi. via primary access roads = 4
- Draft Sources Require Development = 6
- Draft Sources Unavailable = 8

HELICOPTER DIP SPOTS - Item 23

- Under 2 min. turnaround (<1 mi.) = 1
- Within 2-5 min. turnaround (1-2 mi.) = 2
- Within 6 min. turnaround (3 mi.) = 3
- Beyond 6 min. turnaround or Unavailable = 4

STRUCTURAL FIRE PROTECTION - Items 24 and 25

- <= 5 min. from fire department = 5; if VFC = 10
- 6-15 min. from fire department =10; if VFC = 15
- 16-30 min. from fire department =15; if VFC = 20
- No RFD, FSA, municipal fire district or VFC? = 20

HOMEOWNER CONTACT - Items 26 and 27

- Central contact - formal/well organized group (e.g., a homeowners assoc.) = 5
- Less central contact - an informal/loosely organized group (e.g., a civic club or development office) = 10
- Multiple groups - different contacts representing different parts of the community = 15
- No organized contacts = 20

FIRE OCCURRENCE - Item 28

- .00-.10 Fires/1000 ac./10 yr. = 5
- .11-.20 Fires/1000 ac./10 yr. = 10
- .21-.40 Fires/1000 ac./10 yr. = 15
- .40+ Fires/1000 ac./10 yr. = 20

TOTAL SCORE

- | | |
|---------|-------------------------------------|
| <= 110 | low risk - low priority |
| 111-135 | moderate risk - moderate priority |
| 136-150 | high risk - high priority |
| 151-170 | very high risk - very high priority |
| >= 171 | extreme risk - extreme priority |

Appendix E

76-13-104. Functions of department -- rulemaking. (1) The department has the duty to ensure the protection of land under state and private ownership and to suppress wildfires on land under state and private ownership. No fees may be collected for this purpose except fees provided for in [76-13-201](#).

(2) (a) The department shall adopt rules to protect the natural resources of the state, especially the natural resources owned by the state, from destruction by fire and for that purpose, in declared emergencies, may employ personnel and incur other expenses when necessary.

(b) The department may adopt and enforce reasonable rules for the purpose of enforcing and accomplishing the provisions and purposes of part 2 and this part.

(3) The duty imposed on the department under this section is not exclusive to the department and does not absolve private property owners or local governmental fire agencies organized under Title 7, chapter 33, from any fire protection or suppression responsibilities.

(4) The department may give technical and practical advice concerning forest, range, water, and soil conservation and the establishment and maintenance of woodlots, windbreaks, shelterbelts, and fire protection.

(5) The department shall cooperate with all public and other agencies in the development, protection, and conservation of the forest, range, and water resources in this state.

(6) The department shall establish and maintain wildland fire control training programs.

(7) The department shall appoint firewardens in the number and localities that it considers necessary, subject to confirmation by the local county government, and shall adopt rules prescribing the qualifications and duties of firewardens that are in addition to those provided in [76-13-116](#).

(8) By October 1, 2008, the department shall adopt rules addressing development within the wildland-urban interface, including but not limited to:

- (a) best practices for development within the wildland-urban interface; and
- (b) criteria for providing grant and loan assistance to local government entities to encourage adoption of best practices for development within the wildland-urban interface.

History: En. Sec. 6, Ch. 128, L. 1939; amd. Sec. 5, Ch. 253, L. 1974; amd. Sec. 3, Ch. 397, L. 1977; R.C.M. 1947, 28-106(1), (4), (6); amd. Sec. 4, Ch. 529, L. 1981; amd. Sec. 3, Ch. 423, L. 1989; amd. Sec. 34, Ch. 336, L. 2007.